UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,651	03/30/2001	Scott J. Tuman	54407USA6B.006	9447

32692 7590 12/29/2004

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER	
TSOY, ELENA	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/822,651
Filing Date: March 30, 2001
Appellant(s): SEIDEL ET AL.

Kevin W. Raasch
For Appellant

MAILED
DEC 29 2004
GROUP 1700

EXAMINER'S ANSWER

The Examiner's Note: Notification of Non-compliance with 37 CFR 1.1 92(c) mailed 11/26/2004 should be disregarded because the Appeal Brief of 10/25/2004 was compliant with new Rules effective of September 13, 2004.

This is in response to the appeal brief filed October 25, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(7) Prior Art of Record

5586371	THOMAS	12-1996
5669120	WESSELS et al	9-1997
5643651	MURASAKI	7-1997
6205623	SHEPARD et al	3-2001
5547531	ALLEN et al	8-1996

(8) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 21-31, 33-35, 37, 39, 40, 42-48, 50-53, 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomas (US 5,586,371).

As to claims 21, Thomas discloses a web construction comprising a substrate (web) 24 coextensive with the web construction; the web comprising arrays of free formed loops 22, joined to a substrate 24 (See column 5, lines 47-58). The loops 22 have bases 26, shanks 28 and distal ends 30, the bases 26 of the loops 22A contact and adhere to the substrate 24, and support the proximal ends of the shanks 28. The shanks 28 project **outwardly** from the substrate 24 and bases 26. See column 5, lines 5-16. The free formed array of loops 22 is preferably produced by passing a substrate 24 having opposed surfaces between the nip 58 of the print cylinder 60 and a backing roll 62, as illustrated at FIG. 5. The depositing print cylinder 60 has an array of perforations, as shown more clearly in FIG. 6, referred to as apertures 56. The second roll, referred to as the backing roll 62, provides the reaction against the print cylinder 60 to position the substrate 24 against the print cylinder 60 as the substrate 24 passes through the nip 58. **Liquid**, molten polymer is supplied from a heated pressure bar 72. The liquid polymer is then extruded from the apertures 56 onto the substrate 24 (See column 5, lines 29-58) so that the base 26 does not separate from the substrate during use (See column 6, lines 62-63), i.e. loops are *fused* to the substrate 24. As relative displacement between the substrate 24 and print cylinder 60 increases, the material forming the members 22A, which eventually form the loops 22, is stretched in a direction having a lateral vector component, generally parallel to the plane of the substrate 24, forming the shank 28 and the distal ends 30. See column 5, lines 30-67. Once the material in the form of member 22A

fuses with an adjacent member 22A or back upon itself, the material then cools, and preferably freezes, into a solid loop structure 22 having an orifice or opening 32 capable of receiving a male, hook component. (See column 6, lines 1-14).

An array of adjacent loop components form claimed "discrete polymeric regions" because bases 26 of the loops are fused to each other so that each loop does not form a separate polymeric region as shown in Figs. 1-3. And a plurality of loops has shanks 28 extending from each discrete array (claimed discrete polymeric region). Thomas defines the term "shank" as a portion of the loop 22 which is intermediate of and contiguous with the base 26 and the distal end 30 (See column 7, lines 16-20). Since Applicants did not define a term "stem", the term "stem" can be given the broadest reasonable interpretation. The loop shanks 28 clearly can be broadly interpreted as "stems", and therefore, cover claimed stems. Therefore, Thomas discloses each and every element of claimed invention.

As to claims 22, 45, 48, the web 24 comprises loop structures adapted to lock with the plurality of stems (See Figs. 2, 3; column 6, lines 14-40; column 15, lines 26-46).

As to claim 23-26, 28, 46, 47, 50, the web 24 comprises knitted (elastic, porous) fabric, woven (elastic, porous) materials (See column 6, lines 44-45).

As to claim 27, the web comprises nonwoven web material (See column 6, line 45).

As to claims 29, 43, 51, the plurality of discrete regions comprises a plurality of stripes (See Fig. 2).

As to claims 30, 44, 52, the plurality of discrete regions comprises a plurality of patches (See Fig. 2).

As to claims 31, 40, 53, the plurality of stems is oriented at an angle that is not normal to the web plane (See Fig. 2).

As to claims 33, 42, 55, the plurality of stems is oriented in the same direction at an angle that is not normal to the web plane (See Fig. 2).

As to claims 34, 35, the plurality of discrete regions covers between 1 and 99 % of the first side of the web (See Fig. 2).

As to claim 37, the plurality of discrete regions is separated from one another by an average of approximately 1.0-20 mm (See Fig. 2; column 7, lines 47-58).

As to claim 39, the plurality of stems comprises hook (See Fig. 2).

Claims 21-26, 28-31, 33, 39, 40, 42-48, 50-53, 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Wessels et al (US 5,669,120).

Wessels et al disclose a mechanical fastener for the use in diapers (See column 2, line 4) formed from a web construction comprising a pile core sheet S of a coarse woven or knit (See column 4, lines 19-20) having a number of pile regions S1 of a predetermined width and a number of coarse mesh regions S2 of a predetermined width arranged alternately in the transverse direction as shown in FIG. 3. The foundation structure of the coarse mesh region S2 is devoid of piles and is woven or knitted of fiber so as to have pores for the passage of molten resin 4. See column 6, lines 25-39. The mechanical fastener is produced by continuously injecting molten resin 4 from the injection die 1 onto the circumferential surface of the die wheel 2 through the pores of the coarse mesh regions S2, filling in the hook-element-forming cavities 5a successively to form hook elements 4b as the molten resin 4 is expanded uniformly over the circumferential surface of the die wheel 2. As a result, the molten resin 4 remaining on the injection outlet of the injection die 1 and the expanded molten resin 4 are fused with the component material of the pile core sheet S to form the substrate sheet 4a having a predetermined thickness (See column 7, lines 10-28).

The pile core sheet S keeps traveling around the circumferential surface of the die wheel 2 as it is forced thereagainst under molten resin pressure so that the pile core sheet S is embedded in the substrate sheet 4a of the molded surface fastener eccentrically toward the hook-element-surface side or front-surface side as shown in FIG. 2. The molten resin 4 shaped into the surface fastener on the circumferential surface of the die wheel 2 is cooled so that the substrate sheet 4a, in which the pile core sheet S is embedded, integrally with the hook elements 4b become gradually hard. (See column 7, lines 43-55). Figs. 4A through 4E show various modified surface fasteners in which the hook elements 4b and the loop elements 15 coexist on the same substrate sheet (See column 9, lines 50-53).

Thus, a mechanical fastener of Wessels et al comprises an elastic pile core sheet S containing a plurality of discrete polymeric regions having web S2 embedded in a polymer resin 4a, a plurality of hook elements 4b fused to one (first) side of the resin 4a; (See Figs. 4A-4F). The plurality of hooks are oriented at angle that is not normal to web plane in the same direction (See Fig. 4E). The web construction may be of composite structure such as shown in Fig. 4F.The hook elements may be of hook- or **mushroom**-shape engaging elements (See column 1, lines 19-20).

As to elastic structure, the web construction of a structure shown at Fig. 4A is elastic because a pile core sheet S is of a coarse woven or knit cloth with great flexibility (See column 6, lines 32-39).

Rejection of claims 32, 41, 54 under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 5,586,371) in view of Murasaki (US 5,643,651) has been withdrawn.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 5,586,371).

Thomas, as applied above, fails to teach that the plurality of discrete regions covers between 5 and 25 % of the first side of the web.

It would have been an obvious matter of design choice to make discrete regions of any desirable size and pattern including claimed patch pattern or claimed coverage of the web of 5-25% depending on the particular application of end product, since such a modification would have involved a mere change in the size. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Claims 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 5,586,371) in view of Shepard et al (US 6,205,623).

Thomas fails to teach that each stem of the plurality of stems comprises a mushroom head.

Shepard et al teach that hook-shaped fastener elements are functionally equivalent to mushroom head-shaped fastener elements for releasably engaging a loop material (See column 2, lines 22-24; column 6, lines 46-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used mushroom head-shaped fastener elements in Thomas instead of hook-shaped fastener elements since Shepard et al teach that hook-shaped fastener elements are functionally equivalent to mushroom head-shaped fastener elements for releasably engaging a loop material.

Claims 32, 41, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessels et al (US 5,669,120) in view of Murasaki (US 5,643,651).

Wessels et al are applied here for the same reasons as above. Wessels et al fail to teach that the plurality of stems is oriented in multiple directions.

Murasaki teaches that a plurality of stems oriented at an angle that is not normal to the plane of the web in multiple directions provides a fastener with no directivity in engaging strength (See column 7, lines 53-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made a hook material of a fastener in Wessels et al having stems that are angled in multiple directions with the expectation of providing the fastener with no directivity in engaging strength depending on particular use of a final product, as taught by Murasaki.

Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessels et al (US 5,669,120).

Wessels et al, as applied above, fail to teach that the plurality of discrete regions is separated from one another by an average of approximately 0.05-30 centimeters (Claim 37); the plurality of discontinuous discrete regions covers between 1 and 99 % of the first side of the web (Claim 34), between 20 and 80 % of the first side of the web (Claim 35), or between 5 and 25 % of the first side of the web (Claim 36).

It would have been an obvious matter of design choice to make discrete regions in Wessels et al of any desirable pattern and coverage of the web (including those of claims 34-37) depending on the particular application of end product in the absence of a showing of criticality.

Claims 40, 42-48, 50-53, 55, 56, 58-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessels et al (US 5,669,120) in view of Allen et al (US 5,547,531).

Wessels et al are applied here for the same reasons as above. Wessels et al fail to teach that the web construction comprises non-woven elastic material (Claims 40, 42-48, 50-53, 55, 56, 58-61, 66-70).

Allen et al teach that a composite female component of the fastening device for the use in diapers (See column 4, lines 6-7) comprising a non-woven fibrous web joined to an elastic backing provides a low cost loop fastening material instead of conventional knit or woven fabric (See Figs. 1, 4; column 1, lines 68; column 2, lines 1-24; column 3, lines 6-12; column 5, lines 46-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed a web of Wessels et al using a composite female component comprising a non-woven fibrous web joined to an elastic backing with the expectation of providing the desired low cost, as taught by Allen et al.

<u>As to claims 62-65</u>, Wessels et al in view of Allen et al fail to teach that the plurality of discrete regions is separated from one another by an average of approximately 0.05-30 centimeters (Claim 62); the plurality of discontinuous discrete regions covers between 1 and 99 % of the first side of the web (Claim 63), between 20 and 80 % of the first side of the web (Claim 64), or between 5 and 25 % of the first side of the web (Claim 65).

It would have been an obvious matter of design choice to make discrete regions in Wessels et al of any desirable pattern and coverage of the web (including those of claims 34-37) depending on the particular application of end product in the absence of a showing of criticality.

(9) Response to Argument

Applicants' arguments filed October 25, 2004 have been fully considered but they are not persuasive.

(A) Applicants argue that Thomas does not disclose every element of the rejected claims because in case of an array of loops attached to a substrate, each individual loop is attached to the substrate 24 by a base 26 so that each "discrete polymeric region" provides only a single loop, and, even if one were to consider a row of adjacent loop components the equivalent of the claimed "discrete polymeric region", the loop components form only loops, not stems.

However, a row of adjacent loop components does form claimed "discrete polymeric regions" because bases 26 of the loops are fused to each other so that there are no discrete polymeric regions defined by each loop (See Figs. 1-3). And a plurality of loops has shanks 28 extending from each "discrete polymeric region". Since Applicants did not define a term "stem", the term "stem" can be given the broadest reasonable interpretation. The loop shanks 28 clearly can be broadly interpreted as "stems", and therefore, cover claimed stems.

(B) Applicants argue that claims are not anticipated by Wessels et al, because in contrast to claimed invention, a resin, which forms hook elements, *encapsulates* the substrate as shown in Figs. 4A-4F instead of being fused *to* a first major side of the web..

This is not found persuasive because the "encapsulation" in Wessels et al achieves polymeric regions fused to a first major side of the web. It is irrelevant that this result is achieved through encapsulation because claims 21, 40 and 48 are *product claims* which do not recite negative limitation that the web should not have polymeric regions fused to other side of the web.

It is held that determination of patentability is based on the product itself. It is also held that patentability of a product his independent of how it is made. Therefore, it is irrelevant whether a plurality of discrete polymeric regions fused to a first major side of a web is formed by fusing polymeric regions to the first major side of the web or by embedding or encapsulating as long as the resulting web comprises a plurality of discrete polymeric regions fused to a first major side of a web.

(C) Applicants argue that claims 41 and 54 are not prima facie obvious over combination of Wessels et al and Murasaki because Wessels et al do not teach or suggest an elastic web.

As was discussed above, Wessels et al do teach an elastic web.

(D) Applicants argue that claims 40, 42-48, 50-53, 55, 56, 58-70 are not prima facie obvious over combination of Wessels et al and Allen et al because Wessels et al do not teach or suggest each and every element of claims 40 and 48. Also, the Office Action has not identified that Wessels et al teach limitation of claim 56 that discrete polymeric region is *entangled* with a fibrous surface of non-woven web; and the Office Action has failed to identify any motivation to combine the teachings of Wessels et al and Allen et al.

Again, as was discussed above, Wessels et al do teach each and every element of claims 40, 48 and 56.

The Office Action has identified that discrete polymeric region in Wessels et al is entangled with a fibrous surface of the non-woven web by stating that Wessels et al disclose a mechanical fastener for the use in diapers (See column 2, line 4) formed from a web construction comprising a substrate sheet (web) of a coarse *woven* or *knit* (elastic) structure having pores large enough to pass molten resin material throughout its entire area (i.e. entagling), and the hook and

loop elements existing mixedly on the one surface of the substrate sheet as plurality of stripes (patches) (See Fig. 4E; column 3, lines 24-37).

Moreover, Applicants stated themselves while traversing Wessels et al that Wessels et al disclose a molded fastener wherein a synthetic resin *encapsulates* the substrate as shown in Figs. 4A-4F. According to specification, a polymer **melt** is *entangled* with a *fibrous* surface of the web forming effective bonding (See page 18, lines 13-14). Clearly, while e*ncapsulating* a fibrous substrate in Wessels et al a polymer **melt** *entangles* a fibrous surface of the substrate forming effective bonding.

As to motivation to combine, Allen et al teach that a composite female component of the fastening device for the use in diapers (See column 4, lines 6-7) comprising a non-woven fibrous web joined to an elastic backing provides a low cost loop fastening material instead of conventional knit or woven fabric (See Figs. 1, 4; column 1, lines 68; column 2, lines 1-24; column 3, lines 6-12; column 5, lines 46-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a composite female component comprising a non-woven fibrous web joined to an elastic backing instead of a woven or knit web of Wessels et al with the expectation of providing the desired low cost, as taught by Allen et al.Thus, there is clear motivation to combine Wessels et al with Allen et al.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

ELENA TSOY
PRIMARY EXAMINER

Elena Tsoy
Primary Examiner
AU 1762
December 15, 2004

ETsoy

Conferees
Shrive Beck

Glenn Caldarola

OFFICE OF INTELLECTUAL PROPERTY COUNSEL
3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427